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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,425	06/24/2003	Jerry Ditter	PALL.107C1	3308

20995 7590 02/14/2008  
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EXAMINER
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CHEVALIER, ALICIA ANN

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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02/14/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/603,425	<b>Applicant(s)</b> DITTER ET AL.	
	<b>Examiner</b> Alicia Chevalier	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-7,10,11,13-18,21-23,25-31,33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-7,10,11,13-18,21-23,25-31,33 and 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **RESPONSE TO AMENDMENT**

1. Claims 1, 3, 5-7, 10, 11, 13-18, 21-23, 25-31, 33 and 34 are pending in the application, claims 2, 4, 8, 9, 12, 19, 20, 24 and 32 have been.
2. Amendments to the claims, filed on November 14, 2007, have been entered in the above-identified application.

### ***REJECTIONS***

3. **The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.**

### ***Claim Rejections - 35 USC § 103***

4. Claims 1, 3, 5-7, 10, 11, 13-18, 21-23, 25-31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karbachsch et al. (U.S. Patent No. 4,983,288) in view of Miller (U.S. Patent No. 4,906,371).

Regarding Applicant's claims 1 and 21, Karbachsch discloses a filter laminate (*title*) comprising any arrangement of plurality of discrete layers (*figures 4 and 5*) comprising a first membrane layer (*prefiltering membrane, col. 5, line 8*) comprising a first membrane and at least a second membrane comprising a second membrane and a bond between each of the adjacent layers (*final filtering membrane, col. 5, line 9*). The filter laminate is deemed to has a flow rate therethrough such that the filter is configures for separation by filtration (*abstract*). The first

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membrane is a microporous or ultraporous asymmetric membrane and the second membrane is porous (*col. 2, lines 44-48*).

The first membrane further comprising an isotropic region in addition to said asymmetric region, such that said support region comprises a thickness between said first surface and said second surface, wherein said thickness comprises said isotropic region between said first surface and a point within said support region, and an asymmetric region between said point and said second surface, wherein said isotropic region comprises flow channels that are substantially constant in diameter from said first surface to said point between said isotropic region and said asymmetric region, and wherein said asymmetric region comprises flow channels that gradually increase or decrease in diameter from said point to said second surface (*figure 1*).

Miller discloses that the term “isotropic” means that the membrane has a uniform pore structure throughout the membrane. From figures 1-3 of Karbachsch it can be seen that the pore structures are uniform throughout the membrane.

Karbachsch fails to disclose that the laminate comprises a hot melt adhesive bonding layer.

Miller discloses a filter element having an asymmetric microporous membrane (*title, col. 9, lines 46-62*). Miller further discloses bonding the membrane to additional layers with a solventless hot melt adhesive, such that it does not have a low melt temperature that it will not adhesively function at typical heat sterilization and autoclave temperatures (*col. 12, lines 40-51*).

Karbachsch and Miller are analogous because discloses asymmetric microporous membranes in filters.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a hot melt adhesive as taught by Miller to Karbachsch in order to bond the layers together in order to provide a bonding material that will function under heat sterilization and autoclave temperatures.

Regarding Applicant's claim 3, Karbachsch fails to disclose that the second membrane is asymmetric. However it would have been obvious to one of ordinary skill in the art to use two asymmetric membranes, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. Furthermore, one of ordinary skill in the art would be motivated to have two asymmetric prefilters in order to provide better filtration and separation.

Regarding Applicant's claims 5-6 and 10-11, Karbachsch discloses that the pores of the second surface have an average diameter at least about 5 or 10 times greater than an average diameter of the pores of the first surface (*col. 3, lines 36-47 and col. 5, lines 62-64*). The average diameter of the pores of the first surface is from about 0.01  $\mu\text{m}$  to about 10.0  $\mu\text{m}$  or less than about 0.01  $\mu\text{m}$  (*col. 3, lines 36-47 and col. 5, lines 62-64*).

Regarding Applicant's claim 7, Karbachsch discloses that the support structure comprises a reticular network of flow channels connecting the pores of the first surface with the pores of the second surface (*figures 2 and 3*). The flow channels substantially increase gradually in diameter between the first surface and the second surface (*figures 2 and 3*).

Regarding Applicant's claim 13, Karbachsch discloses the filter laminate further comprising a third membrane layer (*figures 3 and 4*).

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Regarding Applicant's claims 14 and 26, as discussed above Karbachsch does not disclose a hot melt adhesive bonding layer. However, Miller discloses these limitations as discussed above.

Regarding Applicant's claim 15, Karbachsch discloses that the first membrane comprises a polymer selected from the group consisting of polyvinylidene fluoride, polyarylsulfone, polyethersulfone, polyamides and cellulosic derivative (*col.3, lines 53-57*).

Regarding Applicant's claims 16-18, Karbachsch discloses that the filter further comprises a layer comprising a material selected from the group consisting of polyester, polypropylene, polyolefin, polyethylene, nylon, paper, cellulose, glass fiber, acrylic, and Mylar and/or selected from the group consisting of nonwoven fibrous material, woven fibrous material, web material, sheet material, calendared material, wet laid material, dry laid material, and extruded material (*col.4, lines 20-25*).

Regarding Applicant's claims 22 and 27, the limitation "formed from ..." is a method limitation and does not determine the patentability of the product, unless the process produces unexpected results. The method of forming the product is not germane to the issue of patentability of the product itself, unless Applicant presents evidence from which the Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. MPEP 2113. Furthermore, the shape of the hot melt adhesive before use is not important since after it is melted the original form will not be in the final product.

Regarding Applicant's claims 23 and 25, Karbachsch discloses that the filter laminate is permeable to water (*col. 1, lines 24-33*).

Regarding Applicant's claim 28, the bubble point of the filter laminate is deemed to be greater than a bubble point of the first membrane layer and the second membrane layer in a skin-to-skin configuration without bonding.

Regarding Applicant's claims 29 and 30, Karbachsch discloses that the first membrane layer and the second membrane layer have different skin pore sizes (*figures 2 and 3*).

Regarding Applicant's claims 31 and 33, the filter laminate is deemed to have a tighter mean flow pore size than the first membrane and second membrane and third membrane layer.

Regarding Applicant's claim 34, Karbachsch discloses that the second membrane is an isotropic membrane. Miller discloses that the term "isotropic" means that the membrane has a uniform pore structure throughout the membrane. From figures 2 and 3 of Karbachsch it can be seen that the pore structures are uniform throughout the membrane.

#### ***ANSWERS TO APPLICANT'S ARGUMENTS***

5. Applicant's arguments in the response filed November 14, 2007 regarding the 35 U.S.C. 103(a) rejection over Karbachsch in view of Miller of record have been carefully considered but are deemed unpersuasive.

Applicant argues that neither Karbachsch nor Miller teaches or suggests a filter laminate incorporating a membrane having the recited morphology. Applicant refers the I-fan Wang declaration to show that advantages over both pure isotropic structure and pure asymmetric structure as disclosed in Karbachsch and Miller.

Applicant's declaration is not persuasive because it is not commensurate in scope with the claims. Applicant's declaration discusses the benefits of funnel with a neck structure.

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Applicant's current claims only an asymmetric region next to an isotropic region. There is nothing in the claims to suggest that the flow channels in either region are connected in a funnel with a neck structure.

Applicant argues that Karbachsch and Miller in combination do not teach or suggest all the limitations of pending claim 21. Applicant further adds that the references do not teach or suggest a laminate comprising two asymmetric membranes in a skin to skin bonded configuration as recited in claim 21 much less identify and advantages to such a configuration.

First, Applicant has not clearly pointed out what is defined by skin to skin bonding. Specification on pages 10-21 describes a lot more than skin to skin bonding. Second, the Examiner has given the limitation "skin to skin bonded" the broadest reasonable interpretation(s) consistent with the written description in applicant's specification as it would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Donaldson Co., Inc.*, 16 F.3d 1190, 1192-95, 29 USPQ2d 1845, 1848-50 (Fed. Cir. 1994). Therefore, "skin to skin bonded" is interpreted to mean the surfaces of the membranes are bonded together. Third, the fact that Applicant has discovered other advantages to such a configuration does not alter the conclusion that the advantages would be in the prior art device, since they have the same structure absent evidence. Therefore, absent evidence Karbachsch and Miller are still deemed to read on claim 21.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Chevalier whose telephone number is (571) 272-1490. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ac/

2/12/2008

/Alicia Chevalier/  
Primary Examiner, Art Unit 1794